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Sent: Tuesday, October 09, 2007 7:09 AM
To: Rombough, Kyrik
Cc: David Keen
Subject: Protocol for Hyperion

Kyrik,

Please find attached the modeling protocol for Hyperion.

Dave

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01/02/2008

**AIR DISPERSION MODELING PROTOCOL
FOR
PROPOSED PETROLEUM REFINERY
IN
UNION COUNTY, SOUTH DAKOTA**



Submitted to:

South Dakota
Governor's Office of Economic Development
711 East Wells Avenue
Pierre, SD 57501-3369

Submitted by:

RTP Environmental
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March 2007

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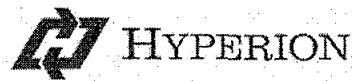
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1.0 INTRODUCTION

This document presents the protocol for the air quality dispersion modeling analysis to be conducted for a proposed refinery to be constructed by Hyperion Refining (Hyperion) in Union County, South Dakota.

The analysis will evaluate emissions of the criteria pollutants regulated under the Prevention of Significant Deterioration (PSD) regulations of 40 CFR 52.21. The analysis will be designed to satisfy the regulatory requirements for:

- Source Impact Analysis of 40 CFR 52.21(k), and
- Air Quality Analysis of 40 CFR 52.21(m).

The source impacts analysis requires a demonstration that the project will not cause or contribute to a violation of a National Ambient Air Quality Standard (NAAQS) or any applicable maximum allowable increase over the baseline concentration (increment). Air quality analysis requirements address the potential requirement for preconstruction ambient air quality monitoring. The air quality analysis quantifies only the impacts of the pollutants that are emitted in amounts in excess of PSD significant emission levels.

The protocol conforms with the modeling procedures outlined in the Environmental Protection Agency's Guideline on Air Quality Models¹ and the New Source Review Workshop Manual (Draft)².



2.0 PROJECT DESCRIPTION

Hyperion is planning to construct a greenfield petroleum refinery in Union County, South Dakota. The proposed refinery will be a state-of-the-art, world-scale facility, capable of refining approximately 400,000 barrels per day of crude oil into gasoline and distillate transportation fuels. As currently envisioned, the refinery complex will include a carbon-sequestration-ready, petroleum coke-fueled, integrated gasification combined cycle (IGCC) power plant. A more detailed description of the project has been provided under separate cover.

Hyperion has preliminarily assessed the potential emissions from the new refinery and, based on this assessment, has determined that the potential emissions of certain regulated New Source Review (NSR) pollutants (i.e., PM₁₀, SO₂, NO_x, CO, VOC, PM, and H₂S) will exceed their respective PSD significant emission rates.

3.0 SITE LOCATION AND DESCRIPTION

The Hyperion facility will be located approximately 40 kilometers north of Sioux City, IA and 10 kilometers north of Elk Point, South Dakota in Union County. The approximate Universal Transvers Mercator (UTM) coordinates of the facility are 684,395 meters east and 4,743,678 meters north (UTM Zone 14, NAD 27). Figure 3-1 shows the general location of the facility. Figure 3-2 shows the specific facility location on the Richland and Vermillion South East 7.5 minute USGS topographic maps. The terrain in the vicinity of the proposed Hyperion facility is generally flat. However, there is terrain to the north east with an elevation in excess of 430 meters (the base elevation of the facility is between 370 and 375 meters).

The proposed site is bordered by Interstate 29 south and west. The site encompasses approximately 32,000 acres of agricultural land.

The new facility will be classified under the regulations governing Prevention of Significant Deterioration (40 CFR 52.21) and Title V (40 CFR 70.2) as a major source of air pollution. Union County is classified as attainment or unclassifiable for all regulated NSR pollutants.

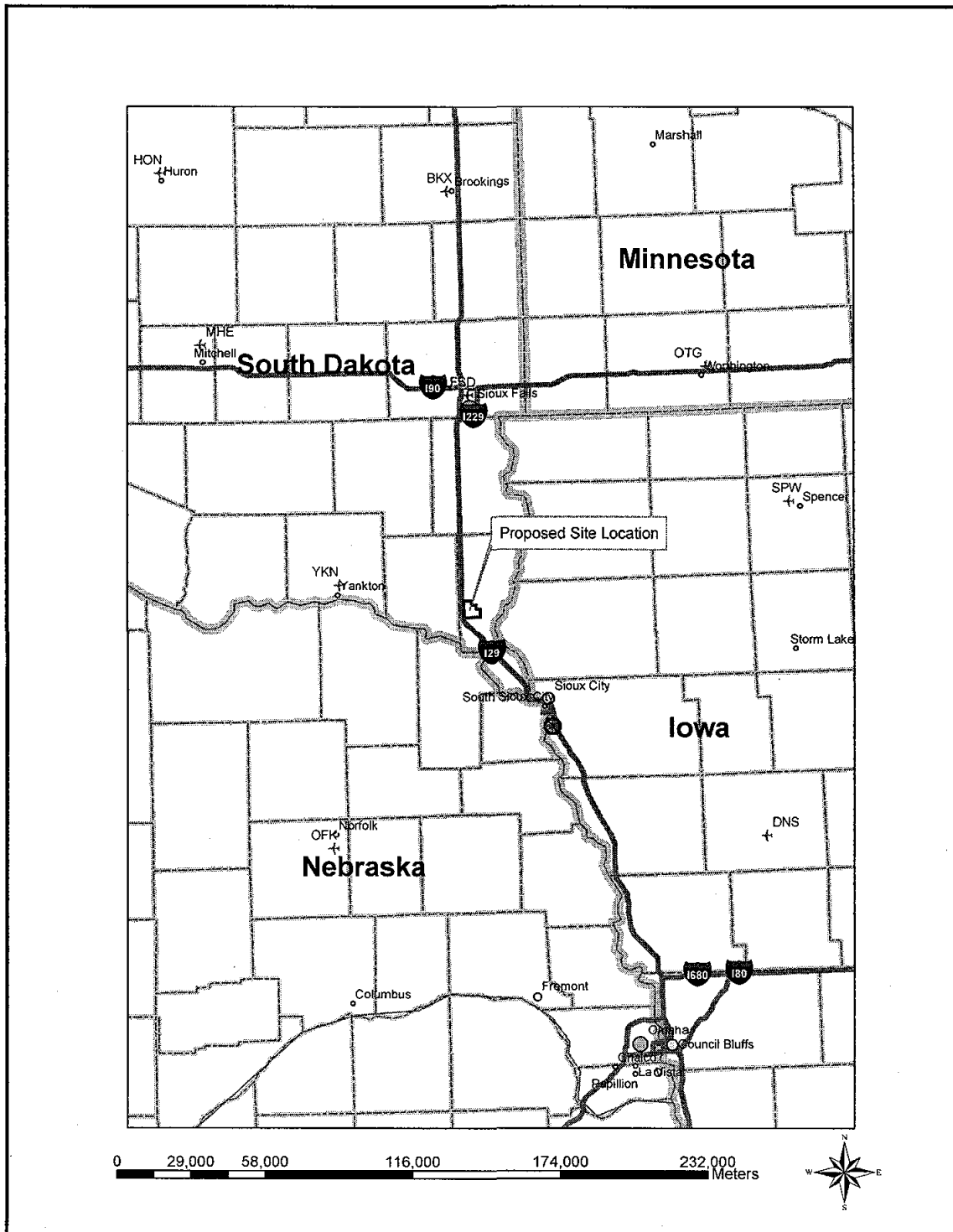


Figure 3-1. General Location of the Proposed Hyperion Facility

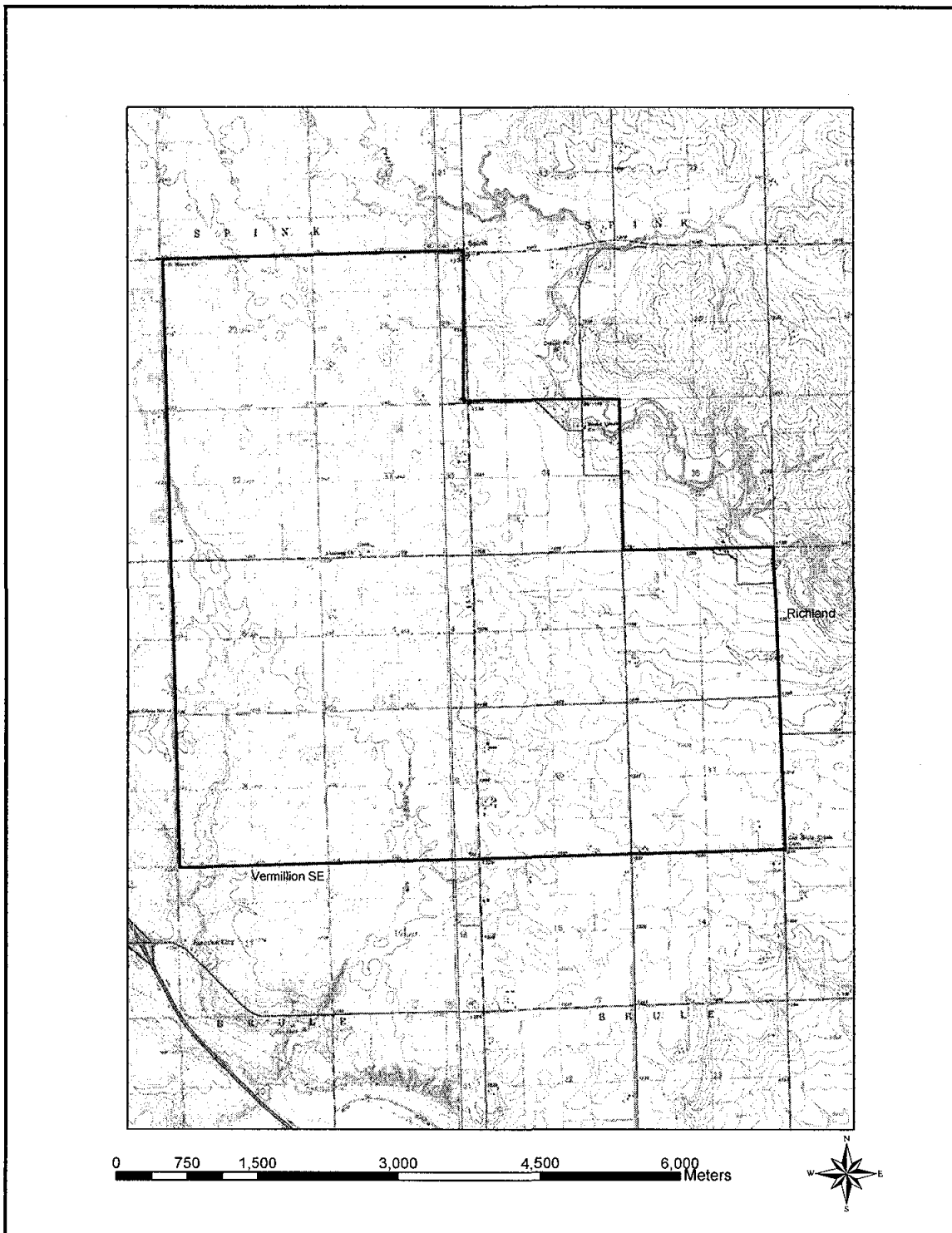


Figure 3-2. Specific Location of the Proposed Hyperion Facility

4.0 MODEL SELECTION AND MODEL INPUT

4.1 Model Selection

The latest version of the AMS/EPA Regulatory Model (AERMOD, Version 07026) will be used for conducting the dispersion modeling analysis. AERMOD is the most appropriate model for calculating ambient concentrations near the proposed Hyperion facility based on the model's ability to incorporate multiple sources and source types, the model's ability incorporate building wake effects, and model's ability to calculate concentrations within the cavity recirculation zone. All model options will be selected as recommended in the EPA Guidelines on Air Quality Models.

AERMOD is a Gaussian plume dispersion model that is based on planetary boundary layer principals for characterizing atmospheric stability. The model evaluates the non-Gaussian vertical behavior of plumes during convective conditions with the probability density function and the superposition of several Gaussian plumes. AERMOD is a modeling system with three components: AERMAP is the terrain preprocessor program, AERMET is the meteorological data preprocessor, and AERMOD includes the dispersion modeling algorithms.

AERMOD was developed to calculate concentrations in both simple and complex terrain. As with CTDMPPLUS, AERMOD uses the dividing streamline concept to address plume interactions with elevated terrain.

4.2 Meteorological Data Selection

The 2000-2004, 5-year sequential hourly surface meteorological data from the National Weather Service (NWS) station in Sioux Falls, South Dakota (WBAN No. 14944) and upper air data from Omaha, Nebraska (WBAN No. 94980) will be processed into "model-ready" surface and profile data files. The Sioux Falls weather station is located approximately 80 km north of the proposed facility in a similar rural setting, so these

data are representative of the meteorological conditions experienced at the site and are proposed for use.

The Sioux Falls surface data were obtained from the National Weather Service in HUSWO metric format. The Omaha upper air data were also obtained from the National Weather Service in FSL format. Omaha upper air data are proposed for use as this is the closest upper air station for which recent data are available.

4.3 Model Setup and Application

AERMOD contains three modules: two pre-processors and the dispersion model. Model receptor elevations and height scales are developed with the AERMAP pre-processor, meteorological data are developed with the AERMET pre-processor, and the model algorithms are applied with AERMOD. Hyperion's proposed application of each of these three modules is discussed in the following sections.

AERMAP

The terrain pre-processor AERMAP will be used to extract receptor elevations data from USGS Digital Elevation Model (DEM) files for use as input to AERMOD. 7.5 minute-resolution DEM data files have been obtained. Receptor locations will be based on North American Datum of 1927 (NAD 27). AERMAP will be used to generate the elevation and height scale for each receptor. The height scale is a measure of the height and distance of the local terrain feature that has the greatest influence on dispersion for that receptor.

AERMET

The meteorological data pre-processor AERMET will be used to develop meteorological data for the AERMOD modeling system. The AERMET software processes surface meteorological data and twice-daily upper air sounding data into the proper format using a three-stage process. The first stage extracts the data and administers several data

quality checks. The second stage merges the data, and the third stage estimates the required boundary layer parameters and writes the data in a format readable by AERMOD.

The surface data requirement includes estimates of the albedo of the ground, Bowen ratio, and surface roughness. Albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. The Bowen ratio is an indicator of surface moisture. It is the ratio of the sensible heat flux to the latent heat flux and is used for determining planetary boundary layer parameters for convective conditions. The surface roughness length is related to the height of obstacles to the wind flow and is the height at which the mean horizontal wind speed is zero.

According to the EPA's AERMOD Implementation Guide³, these surface characteristics should be similar for the NWS meteorological station and the study site. Based upon visual observation of aerial photographs of both the Sioux Falls, SD NWS and the Hyperion site, we determined that the sites possess similar surface characteristics and that the Sioux Falls data are representative of the Hyperion site.

In defining the sectors for the surface characteristics, 45 degree sectors will be specified with a seasonal frequency. A weighted average of surface characteristics by surface area will be applied within each sector for 3 km upwind of the Sioux Falls NWS. The default AERMET Table 4-1 albedo values, Table 4-2b Bowen ratio values, and Table 4-3 surface roughness lengths will be used in developing the seasonal weighted averages.

AERMOD

AERMOD will be run in the regulatory default mode using the rural land use dispersion option. The land use typing scheme of Auer was used to determine the proper land use classification of the Hyperion site.⁴ Specifically, the USGS land use coverages were obtained for the area. The land use classification codes were then categorized as either urban or rural, based on the USGS land use classification codes. It was determined that the land use within the 3 km radius of the area is rural.

4.4 Receptor Grid

The receptor grid will consist of three cartesian grids. The first cartesian grid will extend to approximately 2500 m from the fence in all directions. Receptors in this region will be spaced at 100 m intervals. The second grid will extend from 2500 m to 5000 m. Receptor spacing in this region will be 250 m. The third Cartesian grid will extend from 5000 m to 10,000 m, with a receptor spacing of 1000 m. The grid is designed such that maximum facility impacts fall within the 100 m spacing of receptors. Refinements to the grid will be made around the location of maximum impacts to ensure that the maximum impacts fall within a 100 m receptor spacing.

Terrain within 5 km of the site is generally flat; however, as stated above, receptor elevations will be input to the model for each receptor location. The receptor elevations will be obtained from the 30-meter, USGS 7.5-minute DEM data files and will be processed for input to the models using the Bowman BEEST program.

4.5 Good Engineering Practice Stack Height Analysis

A Good Engineering Practice (GEP) stack height evaluation will be conducted to determine if inclusion of building wake effects will be required in the modeling analysis. Procedures used in this analysis will be in accordance with those described in the EPA

Guidelines for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations-Revised)⁵.

GEP formula stack height, as defined in 40 CFR 51, is expressed as $GEP = H_b + 1.5L$, where H_b is the building height and L is the lesser of the building height or maximum projected width. Building/structure locations will be determined from facility site plans. The structure locations and heights will be input to the EPA's Building Profile Input Program computer program to calculate the direction-specific building dimensions needed for input to AERMOD.

4.6 Pollutants Subject to Review and Stack Parameters

Only the regulated NSR pollutants whose emissions increases exceed the PSD significant emission rates and are therefore subject to PSD review will be evaluated in the modeling analysis.

Fugitive emission sources such as petroleum coke conveying transfer points and paved roads may require evaluation. Fugitive sources will either be modeled as area sources or as volume sources. If modeled as volume sources, the initial dispersion coefficients will be calculated based upon the dimensions of the area of release and the equations contained in Table 3-1 of the ISCST3 User's Guide.⁶ If modeled as area sources, the dimensions of the areas will be based upon the footprints of the sources to be evaluated.

Road Emissions

If the emissions from roads are modeled as volume sources, the procedures outlined in the Texas New Source Review Permits Division's Air Quality Modeling Guidelines⁷ will be followed. These guidelines, described below, are also followed by the permitting authorities in Oklahoma and Nebraska for assessing the air quality impacts for PSD sources that include roads.

- Road emissions will not be included for short-term averaging periods, i.e., periods less than annual averages.
- Volume source input data for the roads will be calculated based upon the following eight steps:
 1. We will determine the adjusted width of the road. The adjusted width will be the actual width of the road plus 6 m. The additional width represents turbulence caused by the vehicle as it moves along the road. This width will represent a side of the base of the volume.
 2. We will then determine the number of volume sources by dividing the length of the road by the adjusted width. The result will be the maximum number of volume sources that will be used to represent the road.
 3. The height of the volume source will be set equal to twice the height of the vehicle generating the emissions.
 4. The initial horizontal dispersion coefficient (σ_y) will be calculated by dividing the adjusted width by 2.15. Alternatively, if the road is represented by alternating volume sources, σ_y will be calculated by dividing twice the adjusted width by 2.15.
 5. The initial vertical dispersion coefficient (σ_z) will be calculated by dividing the height of the volume (as determined in step 3) by 2.15.
 6. The height of the release point will be calculated by dividing the height of the volume (as determined in step 3) by 2. This is the center of the volume.
 7. The total road emission rate will be divided equally into the number of volume sources (as determined in step 2).
 8. The UTM coordinates of each volume source will be set to the location of the center of the base of the volume. This location must be at least 1 m from the nearest receptor.

Cooling Tower Emissions

Particulate matter emissions from cooling towers will be modeled as a series of point sources, one for each cooling cell. The stack diameter will be based on the area cross-section for the cooling tower exhaust fan. The stack height will be set equal to the actual height of the cooling tower. A temperature of zero Kelvin will be used, so that the gas exit temperature varies with ambient temperature.

Ancillary Sources

Emissions from ancillary sources such as fire pumps and emergency generators will also be modeled. These sources will initially be modeled in the same source group as the other emission units at the facility. However, as the emergency sources will only operate when the process equipment is not operating, Hyperion may also model the ancillary sources in a separate source group. The impacts from this source group will be treated as separate from the impacts from the refinery. In addition, in the event that Hyperion models the ancillary sources in a separate source group, Hyperion will only assess short-term NAAQS and increment compliance as the operation of these sources will comprise only a small percentage of total annual operating hours.

4.7 Pollutant Specific Considerations

NO_x

Generally, the initial NO₂ modeling assume a total conversion from NO to NO₂. If the modeled NO_x impacts exceed the significance impact level, NAAQS, or PSD increment for NO₂, the NO_x ratio will be applied. The calculated NO_x impacts will be multiplied by the national default NO₂/NO_x value of 0.75 to determine NO₂ concentrations.

VOC

Since VOCs are photoreactive pollutants and are generally regional in nature in terms of their contribution to ozone formation, no reactive plume modeling of VOCs will be conducted.

5.0 MODELING METHODOLOGY

The criteria pollutant air quality analysis will be conducted in two phases: an initial analysis to screen for significant impacts and a refined phase including both an increment analysis and a NAAQS analysis. In the significant impacts analysis, the calculated maximum impacts will be determined for each pollutant for which the proposed facility's potential to emit exceeds the corresponding PSD significant emission rate. These impacts will determine the net change in air quality resulting from the proposed project. These concentrations will be compared to the pollutant-specific significance levels and used to determine the significant impact areas. Pollutants with impacts that exceed the ambient air significance levels will be included in both the NAAQS and increment analyses. In these analyses, impacts from the Hyperion facility will be added to concentrations calculated from other nearby sources, plus a regional background concentration (NAAQS analysis only). The resultant total concentration will be compared to the NAAQS and increments to determine compliance. The PSD decision point air quality levels used in this analysis are listed in Tables 5-1 through 5-3.

Table 5-1. PSD Class II Significant Impact Levels

Pollutant	Averaging Time	PSD Class II Significant Impact Levels ($\mu\text{g}/\text{m}^3$)
PM ₁₀	24-hour	5
	Annual	1
SO ₂	3-hour	25
	24-hour	5
	Annual	1
NO ₂	Annual	1
CO	1-hour	2000
	8-hour	500

Table 5-2. National Ambient Air Quality Standards

Pollutant	Averaging Time	National Ambient Air Quality Standards ($\mu\text{g}/\text{m}^3$)	
		Primary	Secondary
PM ₁₀	24-hour	150	--
	Annual	50	--
SO ₂	3-hour	--	1300
	24-hour	365	--
	Annual	80	--
NO ₂	Annual	100	100
Ozone	1-hour	235	235
	8-hour	157	157
CO	1-hour	40,000	--
	8-hour	10,00	--
Pb	Calendar quarter	1.5	1.5

Table 5-3. PSD Class II Increments

Pollutant	Averaging Time	PSD Increments ($\mu\text{g}/\text{m}^3$)	
		Class II	Class I
PM ₁₀	24-hour	30	8
	Annual	17	4
SO ₂	3-hour	512	25
	24-hour	91	5
	Annual	20	2
NO ₂	Annual	25	25
Ozone	1-hour	--	--
	8-hour	--	--
CO	1-hour	--	--
	8-hour	--	--
Pb	Calendar quarter	--	--

5.1 Significant Impact Analysis

Five years of meteorological data will be used in the significant impact analysis. The maximum distance to significant impact will be determined for each pollutant and averaging period. Once the distance to a significant impact is determined, NAAQS and increment inventories will be determined by locating all sources within the significant

impact areas plus 50 km. The maximum concentration will be used to determine significance.

5.2 Preapplication Monitoring and Proposed Background Values

The concentrations calculated in the significant impact analysis will also be compared to the PSD significant monitoring exemption levels shown below in Table 5-4. If these exemption levels are not exceeded, Hyperion requests an exemption from pre-construction ambient air monitoring.

Table 5-4. PSD Preconstruction Monitoring Exemption Levels

Pollutant	Averaging Time	PSD Significant Impact Levels ($\mu\text{g}/\text{m}^3$)
CO	8-hour average	575
NO ₂	Annual average	14
SO ₂	24-hour average	13
PM ₁₀	24-hour average	10
O ₃	Not applicable	--
Pb	3-month average	0.1

If the preliminary modeling indicates that the ambient monitoring exemption levels will be exceeded by Hyperion's planned activities, Hyperion requests that existing monitoring data from representative nearby monitors, as shown in Table 5-5, be allowed for use in lieu of site-specific pre-application monitoring data.

Table 5-5 presents the background pollutant concentrations that are proposed both for use in the NAAQS compliance evaluation and to satisfy the preconstruction monitoring requirements of 40 CFR 52.21(m). These data were obtained from the closest ambient monitoring station for each pollutant and, in each case, provide a conservative representation of the concentrations at the rural Union County site.

Table 5-5. Proposed Background Pollutant Concentrations

Pollutant	Averaging Time	Background Concentration ($\mu\text{g}/\text{m}^3$)	Monitor^a
NO ₂	Annual	13.2	460990007
SO ₂	Annual	2.62	460990007
	24-hour	15.7	460990007
	3-hour	49.7	460990007
PM ₁₀	Annual	19.0	460990007
	24-hour	48.0	460990007
CO	8-hour	2,330.0	310550035
	1-hour	7,570.0	310550035

^a Monitors: 310550035 – Metro-Tech Campus, Omaha, NE (Urban)
 460990007 – Bahnson Avenue, Hilltop Site, Sioux Falls, SD (Urban)

5.3 NAAQS Analysis

Following the determination of significant impacts, a refined air quality analysis to determine compliance with the NAAQS will be conducted. A refined analysis will be conducted to determine compliance with the NAAQS only for pollutants modeled as having significant impacts in the screening analysis. Each emission source's potential emission rate will be used. Five years of meteorological data will again be used in this analysis. A subset of the receptor grid modeled in the significant impact analysis will be employed. This receptor grid will essentially be identical to the significant impact analysis grid; however, receptors located beyond the maximum distance to a significant impact will be eliminated. The grid will therefore consist only of receptors that are located within a radius from Hyperion that is equal to the maximum distance to significant impact.



Off-site stationary sources will be included in the NAAQS analysis. A 50 km radius will be added to the maximum distance to a significant impact to define the screening area. A list of the sources that are located within the screening area will be requested from the South Dakota DENR, the Iowa DNR, and the Nebraska DEQ.

Demonstration of compliance with the 24-hr and 3-hr NAAQS will be based on the five-year high-second-high calculated concentration from all sources. Compliance with the 24-hr PM₁₀ NAAQS may be based upon the highest sixth high over the full five years of meteorology. However, Hyperion also requests the option of using the high-second-high PM₁₀ concentration from the five-year dataset to demonstrate NAAQS compliance. This request is made because the five-year runs with AERMOD will be extremely time consuming and Hyperion will likely need to employ five to ten different computers to reduce the total computer run times. Since the runs will likely be split across several CPU's by year of meteorology, the high-sixth-high values will not be readily calculated. The high-second-high PM₁₀ concentrations will be a conservative overestimate of the sixth-high values.

Compliance with the annual standards will be based upon the highest modeled value of the five year meteorological dataset. Appropriate ambient background concentrations will then be added to demonstrate NAAQS compliance. As a conservative measure of compliance, and in efforts to speed up the modeling runs, Hyperion may also elect to demonstrate compliance with the 24-hr PM₁₀ NAAQS using the high-second-high value.

In the event that modeled exceedances are identified, Hyperion will attempt to demonstrate that its proposed facility does not significantly contribute to any such exceedance. This demonstration will be receptor and averaging time specific. It is Hyperion's understanding that, if a demonstration of insignificant impacts can be made at each occurrence of an exceedance, the proposed project will be allowed to proceed.

5.4 PSD Increment Analysis

The increment consumption analysis will include emissions from all proposed increment consuming sources. Compliance with the PSD increments will be based on cumulative impacts of Hyperion's sources and other increment consuming sources identified in the nearby source emissions inventory. Demonstration of compliance with the 24-hr and 3-hr increments will be based on the five-year high-second-high ground-level calculated concentration from all sources.

A subset of the receptor grid modeled in the significant impact analysis will be employed. This receptor grid will essentially be identical to the significant impact analysis grid; however, receptors located beyond the maximum distance to a significant impact will be eliminated. The grid will therefore consist only of receptors that are located within a radius from Hyperion that is equal to the maximum distance to significant impact.

Off-site sources will be included in the increment analysis. A 50 km radius will be added to the maximum distance to a significant impact to define the screening area. A list of the increment-affecting sources that are located within the screening area will be requested from the South Dakota DENR, the Iowa DNR, and the Nebraska DEQ. In the event that modeled increment exceedances are identified, Hyperion will attempt to demonstrate that its proposed facility does not significantly contribute to any such exceedance. This demonstration will be receptor and averaging time specific. It is Hyperion's understanding that, if such a demonstration can be made, the proposed project will be allowed to proceed.

6.0 CLASS I AREA IMPACTS, ADDITIONAL IMPACTS ANALYSIS, AND CLASS II VISIBILITY IMPACTS

6.1 Class I Impacts Analysis

There are no Class I areas located within 400 km of the proposed Hyperion facility. The closest Class I area is the Badlands National Park located in southwestern South Dakota, approximately 430 km to the west north west. No air quality impacts would likely result from the proposed facility given such a great distance. Therefore, we do not propose to evaluate impacts at any Class I area.

6.2 Additional Impacts Analysis

A complete PSD permit application must also contain an evaluation of the impacts of the proposed new major stationary source on soils, vegetation, and visibility.

The impact on soils and vegetation is to be developed for the soil and vegetation types in the impact area of the proposed project. Research data for the region will be used because vegetation types do not change over areas as small as the impact area of a single project. Local agricultural and soil extension services are valuable resources in instigating research regarding soil and vegetation types. Once the soil and vegetation types are determined, research will be conducted to determine if literature exists documenting air pollution effects on the soil and vegetation in question. Usually, if calculated concentrations of pollutants emitted from the project are below the NAAQS, the demonstration can be made that the project will not affect soils and vegetation. This usually occurs because the NAAQS were established at levels believed to be protective of vegetative injury.

An additional air quality impacts assessment will be completed for sensitive areas within the impact region. The additional impacts analysis will evaluate the effects of the increased emissions on soils and vegetation. The impacts will be evaluated by conducting a survey of the soils and vegetation types typically found in the area. Based upon the soils and vegetation types found, a literature search will be completed to



document potential acute and chronic air pollution effects. Ambient threshold values reported in the literature will be used as an indicator of potential adverse effects of emissions from the proposed project.

For the visibility impacts analysis, emissions will be evaluated as described in EPA's Workbook for Plume Visual Impact Screening and Analysis⁸ to determine potential contribution to atmospheric discoloration and visual range reduction. The maximum hourly particulate matter and NO_x emissions from the proposed Hyperion facility will be used as input parameters in the visibility analysis.

Generally, atmospheric discoloration occurs when NO emissions from combustion sources react in the presence of atmospheric oxygen to form NO₂, a reddish-brown gas. Another form of atmospheric discoloration may be caused by particulate emissions and secondary aerosols formed by gaseous precursor emissions. The visual range reduction (increased haze) is caused primarily by particulate emissions and secondary aerosols such as sulfates and nitrates.⁹ Both secondary sulfate and primary particulate emissions are accounted for in the analysis. Emissions of other pollutants do not materially affect visibility.

EPA visibility impairment analysis guidelines will be followed in conducting the analysis. A Level-1 analysis will be performed using EPA's VISCREEN model for the Pipestone National Monument in southwestern Minnesota. This analysis will require inputs of emission rates (PM and NO_x), regional visual range, distance between the source and the object of study, and worst-case dispersion parameters (i.e., wind speed and stability). Outputs from the model include:

- Plume contrast against the sky and terrain; and,
- Perceptibility of the plume (Delta E criteria).

Emission rates for PM and NO_x for the analysis will be set to the maximum hourly emissions anticipated from the facility. These emissions will represent the total facility



emission increases associated with the proposed new refinery. The background visual range will be set to 40 km, consistent EPA guidance. The VISCREEN default screening values for Delta E (2.0) and contrast (0.05) will be assumed.

If exceedences of the default delta E and green contrast parameters are calculated using the conservative meteorological conditions and Level-1 procedures, a more refined Level-2 VISCREEN analysis will be performed based upon the procedures outlined in the visibility Workbook.

The frequency of occurrence of all meteorological conditions (except the E and F stability classes) in the wind sectors where the Pipestone Monument is located will be evaluated. The E and F stability classes will not be evaluated as these conditions occur at night when visibility impacts are not of concern.

7.0 MODEL REPORT DATA ELEMENTS

A modeling report will be submitted documenting the procedures and the results of the analysis. The report will include summary tables of results, a facility plot plan showing emission release locations, buildings, fencelines, and roads. The plot plan will be drawn to scale. A topographical map of the area will also be submitted. Computer generated modeling results files as well as all model and BPIP input files will be submitted electronically.



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